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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,933	09/22/2003	Shanmuganthan Suganthan	38105.830024.US0	1629
26582	7590	06/30/2005	EXAMINER	
HOLLAND & HART, LLP			WIMER, MICHAEL C	
555 17TH STREET, SUITE 3200			ART UNIT	
DENVER, CO 80201			PAPER NUMBER	

2828

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/667,933	<b>Applicant(s)</b> SUGANTHAN ET AL.	
	<b>Examiner</b> Michael C. Wimer	<b>Art Unit</b> 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/22/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/22/2003</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:

On page 3, lines 16-17 and page 4, line 4, the bracketed information contains superfluous material and should be deleted.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3,5,6,8,10-16,18 and 20-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Carlson et al. (6414641).

Regarding Claims 1-3,5,6,8,10-16,18 and 20-25, Carlson et al. show a PIFA comprising a radiating patch 1 defined as a blank with periphery, a first, feed connector 12 cut from the blank and extending away from the blank in a first direction and forming a cutout region in the blank, and a second, ground connector 11 extending away from the blank in the first direction, dielectric carrier 2,etc., and locating pins (col. 3, last paragraph), with a bent/deformed locating

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pin/tab (unnumbered) , locating block (the housing that connects to the feed end of the rod antenna), all arranged as claimed.

4. Claims 1-3,5,6,8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Deng (6344823).

Deng shows in Figures 4 and 5B, an inverted F antenna comprising a patch radiator formed from a conductive blank having a periphery, where the blank has first and second conductors 426 and 424 extending in a first direction away from the blank, all arranged as claimed.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng (6344823) in view of Klinger et al. (5532707).

As noted above, the PIFA antenna is shown by Deng. However the cutout region is located on the periphery instead of completely internal as recited in Claim 4.

Thus, Klinger et al. are cited as resolving the level of ordinary skill in the antenna art and as evidence of obviousness where the antenna is completely formed within the perimeter of the plate in which the antenna is formed. The feeder, with ground connector 7,7 extends a first direction from the plate 5, and an antenna portion 13, defining the cutout, contributes to the radiation pattern (see col. 4,

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third paragraph of Klinger et al.). It would have been obvious to form the antenna of Deng completely within the perimeter of the plate and the aperture thus formed defining an antenna element effecting the radiation pattern.

7. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson et al. (6414641) in view of Klinger et al (5532707).

Carlson et al. show the PIFA as claimed above. Klinger et al is cited as resolving the level of ordinary skill in the antenna art and shows an antenna completely formed within the perimeter of the plate. It would have been obvious to the skilled artisan to form the Carlson et al. completely within the perimeter, where the cutout formed contributes to the radiation pattern and thus defines an antenna element.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun O. Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael C. Wimer  
Primary Examiner  
Art Unit 2828

MCW  
5/9/2005